

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2005/003030

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl⁷ H04R19/01

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ H04R19/01Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1922-1996 Jitsuyo Shinan Toroku Koho 1996-2005
Kokai Jitsuyo Shinan Koho 1971-2005 Toroku Jitsuyo Shinan Koho 1994-2005

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 2001-231098 A (Mitsubishi Electric Corp.), 24 August, 2001 (24.08.01), All pages; all drawings & DE 10052196 A1	1-10
Y	JP 6-217397 A (CSEM-Centre Suisse d'Electronique et de Microtechnique SA Recherche et Developpement), 05 August, 1994 (05.08.94), All pages; all drawings & US 5677965 A & EP 587032 A1 & FR 2695787 A	1-10
Y	JP 2003-31820 A (Nippon Hoso Kyokai), 31 January, 2003 (31.01.03), All pages; all drawings (Family: none)	1-10

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	
"A"	document defining the general state of the art which is not considered to be of particular relevance
"E"	earlier application or patent but published on or after the international filing date
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
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"P"	document published prior to the international filing date but later than the priority date claimed
"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&"	document member of the same patent family

Date of the actual completion of the international search
19 May, 2005 (19.05.05)Date of mailing of the international search report
07 June, 2005 (07.06.05)Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	JP 2002-223499 A (Seiko Epson Corp.), 09 August, 2002 (09.08.02), All pages; all drawings (Family: none)	6-10 1-5
Y A	JP 2001-51424 A (ASM Japan Kabushiki Kaisha), 23 February, 2001 (23.02.01), All pages; all drawings & US 6586163 B1 & EP 1058155 A2 & TW 451271 B	2-10 1
A	JP 2002-335599 A (Sharp Corp.), 22 November, 2002 (22.11.02), All pages; all drawings (Family: none)	1-10
A	JP 2002-315097 A (Mitsubishi Electric Corp.), 25 October, 2002 (25.10.02), All pages; all drawings & US 6383832 B1 & TW 542906 B	1-10
A	JP 2002- 315097 518913 A (Microtonic A/S), 25 June, 2002 (25.06.02), All pages; all drawings & US 6622368 B1 & EP 1093703 A1 & WO 1999/065277 A1	1-10
A	JP 2002-320294 A (Mitsubishi Electric Corp.), 31 October, 2002 (31.10.02), All pages; all drawings (Family: none)	1-10
P,A	JP 2004-166262 A (Heidai TOSHIMITSU), 10 June, 2004 (10.06.04), All pages; all drawings (Family: none)	1-10